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REED SMITH, LLP TWO EMBARCADERO CENTER SUITE 2000 SAN FRANCISCO, CA 94111			EXAMINER THAKUR, VIREN A	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/721,583

Applicant(s)

MITCHELL ET AL.

Examiner

Viren Thakur

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, claims 1-42 in the reply filed on July 26, 2007 is acknowledged.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. **Claim 3 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement.**

The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claim recites the steps of cutting, removing and placing being performed at one of in the field and at a processing plant. The breadth of the claims and the limited guidance in the specification do not provide sufficient disclosure for how

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one skilled in the art would be able to cut the product from a stalk from which it was grown at a processing plant. To the skilled artisan, processing plants do not grow produce within the facility, thus the produce would have necessarily been grown and cut in the field.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claims 11, 18, 20, 21, 23 and 35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

Instant claim 18 recites the limitation "relative directed toward the de-cored ends of the product." The claim is unclear as to what is considered a direction relative to the de-cored ends of the product. The term relative does not provide a definite direction of the flow of washing fluid.

Regarding claims 11 and 20, the phrase "such that" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Instant claim 21 recites the limitation "a direction consistent with requirements of a spin dryer." The claim does not adequately define the metes and bounds of what would be the requirements of the spin dryer."

Instant claim 23 recites the limitation "that extends a shelf life of the product." The claim is unclear as compared to what is the shelf life extended. The claim does not provide a base-line from which to make a comparison that the instantly claimed product has improved or "extended" shelf-life.

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Claim 35 recites the limitation "... comprising at least one of chilled water, chlorine, **and** an anti-bacterial agent." The recitation of a selection from a group of elements in a claim should comply with accepted U.S. Patent practice with regard to the recitation of Markush grouping of claim elements. Phrases using "comprising" are open sets, and should recite elements in the alternative (i.e. comprising A, B, C, or D).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. **Claims 1,2,4,5, 7-9, 25-27 and 29-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Mitchell et al. (US 6112429).**

Mitchell et al. discloses cutting a product from a stalk (Column 1, Lines 19-25), removing the core (Column 3, Lines 31-32) and then placing into a tote (Column 3, Lines 34-35). A tote is interpreted as a container holding the food products. In this case, Mitchell et al. disclose boxes or bags as the containers for packaging the food products. Regarding instant claim 2, Mitchell et al. disclose cutting off the core of the product (Column 3, Lines 31-32). Regarding instant claim 4, Mitchell et al. disclose removing the core and placing into a tote at a processing plant (Column 3, Lines 31-35). Regarding instant claim 5, the whole head of the product is retained since Mitchell et al. disclose whole head lettuce. Regarding instant claim 7, Mitchell et al. inherently disclose using another device for removing the core. This limitation reads on any means other than using a v-

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cut for removing the core. Regarding instant claims 8 and 9, Mitchell et al. disclose placing the produce onto conveyors for washing and then placing into totes, or containers such as cardboard boxes (Column 3, Lines 21-35). Regarding instant claim 25, Mitchell et al. disclose packaging produce in plastic bags which are ready for shipment (Column 3, Lines 34-36). Regarding instant claims 26 and 29-31, it is noted that the claim is directed to a product and thus processing steps do not provide a positive recitation within a product claim. Since Mitchell et al. disclose a packaged product, Mitchell et al. anticipate the product of instant claims 26 and 29-31, a packaged produce. Regarding instant claim 27, although Mitchell et al. do not explicitly disclose a side loaded bag, Mitchell et al. disclose loading the dried produce into a plastic bag. Thus, in order to load the bag, the produce must be filled from a side of the bag. Therefore, Mitchell et al. inherently disclose loading from a side of the bag.

8. Claims 1, 2, 3, 5, 7, 11 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Garcia, Jr. et al. (US 20020170575 A1).

Garcia, Jr. et al. disclose removing the core from lettuce (Paragraph 0031). The whole head lettuce would inherently have been cut from the stalk from which it was grown. Garcia, Jr. et al. further disclose placing the de-cored product in a tote. In this case, the tote is a basket which is used for washing (Paragraph 0031). Regarding instant claim 3, Garcia, Jr. et al. disclose performing the removing and placing, in the field or at a non-field setting (Paragraph 0029). Regarding instant claim 5, as can be seen from the figures, the whole head nature of the lettuce is retained after de-coring (Figure 5, Item 34). Regarding instant claim 7, in order to remove the core of the lettuce, a device other than a v-cut would inherently have been used for removing the core. Regarding instant claim 11, the baskets are placed into the flow of washing fluid by nozzles which are above and below the baskets (Paragraph 0031). As can be seen in Figure 5, the flow of the fluid would be facing the flow. Regarding instant

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claim 13, Garcia, Jr. et al. disclose nozzles above and below, thus disclosing flow directed to a first and second side of the tote. In this case the sides are the top and bottom of the basket.

9. Claims 1, 3, 11, 16, 17, 18, 19, 20, 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Hougham (US 5316778).

Hougham discloses cutting a product from the stalk (Column 1, Lines 56-62), removing the core (Column 1, Lines 63-65) and placing the de-cored product in a tote (Column 2, Lines 11-13). In this case a basket is considered the tote. Regarding instant claim 3, the steps of cutting, removing and placing are performed in the field. Regarding instant claim 11, Hougham discloses placing the tote in a flow of washing fluid such that the de-cored ends of the products are facing the flow (Column 2, Lines 35-40). In this case, Hougham discloses an agitated tank wherein the de-cored ends of the product would inherently have faced the flow of the washing fluid. Regarding instant claim 16, Hougham discloses immersing the tote in a wash tank for cleaning, as discussed above. Regarding instant claims 17 and 18, the agitation in the wash tank results in a flow of washing fluid. Regarding instant claim 19, a conveyor belt directs the basket through a water bath (Column 2, Lines 35-38). Regarding instant claim 20, as discussed above, as a result of the agitation, the de-cored ends of the product face a flow of washing fluid in the tank. Regarding instant claim 21 and in light of the rejection under 112, second paragraph, above, the product is considered oriented within the totes in a direction consistent with requirements of a spin dryer.

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:
A person shall be entitled to a patent unless –

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(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

11. Claims 1,2,3,5,7,11,12, 13, are rejected under 35 U.S.C. 102(a) as being anticipated by Brown (US 20030126850 A1).

Brown discloses cutting and coring a product (Paragraph 0005) and placing said de-cored product into a tote (Paragraph 0011). Regarding instant claim 2, Brown discloses removing the core, thus cutting off the core of the product. This is further supported by Paragraph 0041 wherein either the trimmer or packer trims out the core. Regarding instant claim 3, Brown discloses cutting the product, removing the core and placing into a tote in the field and subsequently processing (Paragraph 0005 and Paragraph 0011). Regarding instant claim 5, the whole head nature of the product is retained since Brown discloses that the core of the removed from the head or stalk (Paragraph 0041). Thus the head or stalk would still have had its whole head nature. Regarding instant claim 7, Brown discloses removing the core and thus another device would inherently have been used in order to remove the core. Regarding instant claim 11, Brown discloses that the cored product is placed in a container and the sap contained within the product is allowed to bleed out prior to washing (Paragraph 0030). In order to allow for bleeding the product would inherently have been arranged in a vertical arrangement so as to allow the sap to bleed out from the product. During washing, the nozzles are arranged in rows or any suitable arrangement that washes the trimmed produce (Paragraph 0043). Nevertheless, since the produce would have to have been arranged so as to allow bleeding of the sap (i.e. vertical) and since the nozzles can also be arranged above and below the container holding the produce, Brown thus discloses the de-cored ends of the product facing the flow of the washing fluid. Regarding instant claim 12, Brown retains the whole head nature of the product during washing and drying and packaging. In this case during the lettuce, which

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is cored but still whole is placed in a vibrating device to remove excess water and then dumps the lettuce into bins (i.e. packaging) (See Paragraphs 0044 and 0046). Regarding instant claim 13, Brown discloses two flows directed at a first and second side of the tote, since the spray nozzles are above and below the container (Paragraph 0043).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. **Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mitchell et al. (US 6112429) in view of Herrera (US 20030217650).**

Mitchell et al. are taken as cited above. Mitchell et al. are silent in teaching wherein the device to cut out the core of the product is a stainless steel

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knife. Nevertheless, Mitchell et al. disclose wherein the core is removed or trimmed (Column 3, Lines 31-32). Herrera teaches a method for harvesting and coring produce such as lettuce (Paragraph 0004) using a cutting element comprised of steel or steel alloy (Paragraph 0079). Therefore, Hererra teaches that it has been well established in the art and thus would have been obvious to the ordinarily skilled artisan to use a cutting edge to remove the cores of the lettuce of Mitchell et al. Using a steel alloy cutting element as taught by Herrera would have provided consistency in the removal of the core from each of the lettuce heads. Although Hererra does not explicitly teach stainless steel, it would have been obvious to one having ordinary skill in the art that steel alloys encompasses stainless steel. Nevertheless, in cutting food products it would have been within the knowledge of the ordinarily skilled artisan and thus obvious to the ordinarily skilled artisan to use a stainless steel cutting edge since stainless steel cutting devices do not stain, corrode or rust, thus preventing contamination to the food product being cut.

- 15. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mitchell et al. (US 6112429) in view of Porchia et al. (US 5492705). Shepard et al. (US 7163706) is cited as evidence, as discussed below.**

Mitchell et al. is taken as applied above. Mitchell et al. is silent in teaching wherein the plastic bag includes a re-closable zipper. Porchia et al. teach using reclosable zippers for bags containing lettuce (Column 3, Lines 27). Porchia et al. teach the use of reclosable fasteners for being able to open and reseal a bag that contains a respiring produce, such as lettuce. Thus to use a reclosable zipper, as taught by Porchia et al., would have been obvious to one having ordinary skill in the art for the purpose of being able to reuse the bag for providing respiration to the produce to maintain its freshness while also protecting the produce from contaminants. Therefore, to use a reclosable zipper, as taught by Porchia et al. would not have provided a patentable distinction over the prior art. Shepard et al. on column 4, lines 60-67 is also relied on as further

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evidence of the commonality in the art to use a reclosable zipper on a plastic bag for the purpose of being able to seal and reseal a bag containing produce, such as lettuce.

- 16. Claims 8-10, 16-17 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitchell et al. (US 6112429) in view of Hougham (US 5316778).**

Mitchell et al. are taken as cited above.

In an alternative interpretation regarding instant claims 8 and 9, Mitchell et al. is silent in teaching the step of pre-washing the cut product prior to placing it in the tote and further comprising the step of spray washing at least one end of the product before placement in the tote.

Hougham teaches the step of pre-washing cored lettuce leaves by first spraying with a solution of fresh water, and chlorine to remove a natural latex milky substance generated from the leaf (Column 2, Lines 17-23). Hougham further teaches that the first wash adds moisture to the leaf and increases the shelf life of the vegetable, and also kills bacteria while also removing dirt and debris which accumulated on the product due to field handling (Column 2, Lines 24-29). After the pre-washing, Hougham subsequently places the tote within a washing step at the processing facility to remove insects, dirt and other debris which remains attached to the product following field processing (Column 2, Lines 40-42). Both Mitchell et al. and Hougham teach harvesting lettuce at a field and placing it into a container. Nevertheless, based on the teachings of Hougham, it would have been obvious to one having ordinary skill in the art to pre-wash the lettuce of Mitchell et al., as taught by Hougham for the purpose of removing the dirt and debris which accumulated during field handling. Also, such a modification would have extended the shelf life by adding moisture and also provided bacteriocidal effect. Although Hougham discloses pre-washing after placing the lettuce within a tote, to pre-wash prior to placing into a tote would

have been within the knowledge of the ordinarily skilled artisan for the purpose of forgoing the need to drain the container of the dirt and residue from the wash. Such a modification would also have loosened dirt and other contaminants thus resulting in efficient cleaning during the washing step. This is a similar concept to pre-scrubbing dirty dishes before placing in the dishwasher so as to ensure complete cleaning of the dish. Even further, since Hougham teaches the concept of pre-washing, whether the pre-wash was performed prior to or after placement within the tote would not have provided a patentable feature over the prior art, since Hougham teaches the concept of pre-washing for the removal of the accumulation of dirt, an bacteriocidal effect and extending the shelf life of the product by adding moisture prior to processing the lettuce at a processing plant.

Regarding instant claim 10, Mitchell et al. teach spray washing the product and then transferring the produce to a transport vehicle but is silent in teaching spray washing after placement in a tote. Similarly regarding instant claim 32, Mitchell et al. teach field loading produce into totes and drying in the same totes but is silent in teaching washing in the same field loaded totes.

Hougham teaches placing leafy vegetables into containers. After placing into the containers, the leafy vegetables undergo a washing, and drying and subsequent packaging. Nevertheless, Hougham teaches extending the storage-life of the vegetables by minimizing the factors that result in spoilage. Such factors include microbiological decay, handling damage, for example (Column 1, Lines 25-27). To prevent handling damage, Hougham teaches placing the vegetables into a container which is then conveyed through a washing and drying system which still in the container and then packaging. Based on these teachings, it would have been obvious to one having ordinary skill in the art to keep the produce of Mitchell et al. within the tote that was used to harvest the product and subsequently wash the produce within the same tote for the purpose of minimizing the handling by an operator. Mitchell et al. teach that during the washing phase, the produce is *typically* emptied from the individual totes (Column 1, Lines 28-30). Nevertheless during drying, the same totes are loaded

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with the washed produce (Column 3, Lines 36-46). Therefore, in combination with the knowledge of the ordinarily skilled artisan, the modification of using a container through the entire washing and drying of the produce, as taught by Hougham, would have extended the storage by preventing damage caused during transport of the produce from out of the container and into a washing cycle and back into the containers for drying.

Regarding instant claim 16, Mitchell et al. teaches an immersion tank (See Abstract and Column 1, Lines 44-48) including a cleaning fluid, as recited in instant claim 17.

- 17. Claims 11-15, 18, 19, 20, 21, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitchell et al. (US 6112429) in view of Hougham (US 5316778), as applied to claims 8-10, 16 and 17 above, and in further view of Brown (US 20030126850) and Brown et al. (US 62998865).**

The combined teachings of Mitchell et al. and Hougham teach washing in a tote, as recited in instant claim 11. Further regarding instant claim 11, Mitchell et al. teach washing the produce but are silent in teaching the step of washing a de-cored product. Regarding instant claim 13, Mitchell et al. teach a first and second flow of washing fluid directed to the sides of the produce but is silent in teaching a tote.

Brown ('850) teaches that coring the lettuce in the field eliminates most of the waste leaves and cores, thereby reducing the bulkiness of the product during shipment. Brown further teaches that coring of the lettuce means only 100 percent usable lettuce leaves are shipped when the lettuce head is cored in the field (Paragraph 0008). In addition, Brown teaches that first cutting and coring the lettuce allows the lettuce to bleed excess sap prior to washing. As a result the sap or latex exudates is removed from the product, thus resulting in a more appealing lettuce product (Paragraph 0009).

Brown et al. ('865) further teaches washing fluid sprayed through the holes (Column 2, Lines 35-41) thus removing any additional accumulated dirt or remaining latex exudates within the core.

Based on these teachings, it would have been obvious to one having ordinary skill in the art to remove the core of the lettuce of Mitchell et al. prior to washing for the purpose of removing the undesirable latex exudates and further for only providing 100 percent usable lettuce leaves. Such a modification would have provided a more appealing product while also reducing the bulkiness of the product. By further placing the flow of fluid through the de-cored ends of the product, as taught by Brown ('865), any accumulated dirt or exudates from within the core would also have been eliminated during washing.

Regarding instant claim 12, the Mitchell et al. teach washing, drying and packaging and further teach maintaining the whole head nature of the product.

Regarding instant claim 14, Mitchell et al. teach placing products in two rows within a tote (See Figure 2B). As discussed above, Mitchell et al., is silent in de-coring prior to washing. Nevertheless, based on the teachings of Brown ('850) and Brown et al. ('865) it would have been obvious to face the de-cored ends of the produce towards the sides of the tote for the purpose of receiving the flow of washing fluid within the de-cored openings. Such a modification would have eliminated additional accumulated dirt or exudates from within the core. Regarding instant claim 15, based on the size of the totes (Figure 2A, 2B) it would have been obvious to the ordinarily skilled artisan to place multiple rows of the de-cored product on top of each other for the purpose of maximizing the efficiency of the washing and drying process.

Regarding instant claim 18, Mitchell et al. teach flow of cleaning fluid directed toward the ends of the product. The combined teachings of Mitchell et al., Hougham, Brown ('850) and Brown et al. ('865), as discussed above teach washing de-cored produce in a tote and the flow of washing fluid directed toward the de-cored ends of the product. Regarding instant claim 19, Mitchell et al. teach a conveyance device to carry the tote of modified Mitchell et al. (See

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Figure 9B) through the cleaning tank. Regarding instant claim 20, as discussed above with regard to Brown ('850) and Brown et al. ('865) modified Mitchell et al. teach the cut and de-cored ends of the produce facing the flow of washing fluid in the tank. Regarding instant claim 21 and in light of the rejection under 112, second paragraph, modified Mitchell teach the product oriented within the totes in a direction consistent with requirements of a spin dryer, especially since Mitchell et al. teach placing the product after washing back into totes for spin drying.

Regarding instant claim 22, Mitchell et al. teach placing a tote comprising washed whole head produce into a spin dryer (Column 3, Lines 37-46). The spin drying of Mitchell et al. maintains the whole head nature during drying and after drying said whole head produce is packaged (Column 3, Lines 37-46).

Regarding instant claim 23, Mitchell et al. teach using a temperature of between 33-40°F (Column 5, Lines 5-7) for the washing of the produce. Furthermore, high temperatures have been well known in the art to aid in spoiling produce.

Therefore, it would have been obvious to maintain a temperature that prevents this spoilage and thus maintains and extends the shelf life of the product.

- 18. Claim 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitchell et al. (US 6112429) in view of Hougham (US 5316778), Brown (US 20030126850) and Brown et al. (US 6298865), as applied to claims 11-15, 18, 19, 20, 21, 22, above and in further view of Terry (US 5711980).**

Regarding instant claim 24, Mitchell et al. teaches using a temperature of between 33-40°F (Column 5, Lines 5-7) for the washing of the produce but is silent in teaching maintaining the temperature of between 33 and 38°F throughout the entire process. Terry teaches maintaining a "cool" temperature (Column 1, Lines 43-51) throughout the processing of the produce for the purpose of preserving the marketable life of the produce (Column 1, Lines 25-39). On column 2, lines 17-19 and lines 30-34, Terry teaches a constant temperature throughout processing of 35°F. Terry teaches that maintaining a

lowered temperature through processing aides in extending the useful marketable life of produce therefore it would have been obvious, based on these teachings, to operate the processing equipment of modified Mitchell et al. at 35°F for the purpose of extending the useful marketable life of the produce.

- 19. Claims 33-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitchell et al. (US 6112429) in view of Brown (US 20030126850), Hougham (US 5316778) and Brown et al. (US 6298865).**

Mitchell et al. teach cutting a product from a stalk (Column 1, Lines 26-34), loading produce in a tote in a pre-aligned direction relative to the tote (Figure 2B), transporting the tote to a processing facility (Column 3, Lines 11-15), washing the produce (Column 3, Lines 21-22), spin drying the produce while the produce is contained within the tote (Column 1, Lines 57-60).

Regarding instant claim 33, Mitchell et al. is silent in removing the core from the product.

Brown ('850) teaches that coring the lettuce in the field eliminates most of the waste leaves and cores, thereby reducing the bulkiness of the product during shipment. Brown further teaches that coring of the lettuce means only 100 percent usable lettuce leaves are shipped when the lettuce head is cored in the field (Paragraph 0008). In addition, Brown teaches that first cutting and coring the lettuce allows the lettuce to bleed excess sap prior to washing. As a result the sap or latex exudates is removed from the product, thus resulting in a more appealing lettuce product (Paragraph 0009).

Based on these teachings, it would have been obvious to one having ordinary skill in the art to remove the core of the lettuce of Mitchell et al. prior to washing for the purpose of removing the latex exudates which is undesirable and further for only providing 100 percent usable lettuce leaves. Such a modification would have provided a more appealing product while also reducing the bulkiness of the product and thus increasing the efficiency of the process.

The combined teachings of the prior art are further silent in pre-washing the de-cored end of the product and further immersing the totes in a washing and loading the tote directly from washing without re-loading to a dryer.

Hougham teaches the step of pre-washing cored lettuce leaves by first spraying with a solution of fresh water and chlorine to remove an natural latex milky substance generated from the leaf (Column 2, Lines 17-23). Hougham further teaches that the first wash adds moisture to the leaf and increases the shelf life of the vegetable, and also kills bacteria while also removing dirt and debris which accumulated on the product due to field handling (Column 2, Lines 24-29). After the pre-washing, Hougham subsequently places the tote within a washing step at the processing facility to remove insects, dirt and other debris which remains attached to the product following field processing (Column 2, Lines 40-42). Both modified Mitchell et al. and Hougham teach harvesting lettuce at a field and placing it into a container. Nevertheless, based on the teachings of Hougham, it would have been obvious to one having ordinary skill in the art to pre-wash the lettuce of modified Mitchell et al., as taught by Hougham for the purpose of removing the dirt and debris which accumulated during field handling. Also, such a modification would have extended the shelf life by adding moisture and also provided bacteriocidal effect.

Regarding immersing the totes in a washing and drying without reloading the tote after washing, Hougham teaches placing leafy vegetables into containers. After placing into the containers, the leafy vegetables undergo a washing, and drying and subsequent packaging. Nevertheless, Hougham teaches extending the storage-life of the vegetables by minimizing the factors that result in spoilage. Such factors include microbiological decay, handling damage, for example (Column 1, Lines 25-27). Nevertheless, to prevent handling damage, Hougham teaches placing the vegetables into a container which is then conveyed through a washing and drying system which still in the container and then packaging. Based on these teachings, it would have been obvious to one having ordinary skill in the art to keep the produce of Mitchell et

al. within the tote that was used to harvest the product and subsequently wash the produce within the tote for the purpose of minimizing the handling by an operator. Mitchell et al. teach that during the washing phase, the produce is *typically* emptied from the individual totes (Column 1, Lines 28-30). Nevertheless during drying, the same totes are loaded with the washed produce (Column 3, Lines 36-46). Therefore, in combination with the knowledge of the ordinarily skilled artisan, the modification of using a container through the entire washing and drying of the produce, as taught by Hougham, would have extended the storage by preventing damage caused during transport of the produce from out of the container and into a washing cycle and back into the containers for drying.

Regarding instant claim 34, Mitchell et al. teach after drying, packaging the produce (Column 3, Lines 34-35). Regarding instant claim 35, Mitchell et al. teach using chilled water (Column 5, Lines 1-12). Regarding instant claim 36, Mitchell et al. teach a first conveyor belt and a second conveyor belt (Figure 9B). Mitchell et al. teach using the two conveyor belts to prevent bobbing of the produce while submerged. Nevertheless, bobbing of a tote, as used in modified Mitchell et al. would also have been expected to "bob" depending on the amount of produce within the tote and the number of openings within the tote. Therefore, to use a second conveyor on the top of the tote would have been obvious for the purpose of securing the tote while the tote is submerged. Regarding instant claim 37, the combined teachings of the prior art are silent in teaching a latching mechanism for securing the tote with the conveyor belt, however, in immersing totes in a tank and when using pressurized spraying to wash produce contained within the totes of modified Mitchell et al., it would have been obvious to one having ordinary knowledge in the art that immersion and spraying could result in dislodgement of the tote from the conveyor belts. Such an incident would have resulted in stoppage of the entire automated process of washing the totes. Thus, based on this knowledge it would have been obvious to provide a securement mechanism that keeps the totes of modified Mitchell et al. in communication with the conveyor belts. Such a modification would have prevented the totes from

slipping off of the conveyor belts due to the forces imparted onto the tote as a result of washing.

Regarding instant claim 38, Mitchell et al. teach spray washing ends of the product (See Figure 9B) prior to loading into the tote. It is interpreted Mitchell et al. teach washing the produce on the ends and then loading into totes. Thus, Mitchell et al. meet this limitation. Even further, the claim only recites wherein the product is spray washed on the ends prior to loading into the tote. As recited in instant claim 33, the product only claims antecedent basis to "a product" thus Mitchell et al. teach the limitations of instant claim 38.

In an alternative interpretation, however, although Hougham discloses pre-washing after placing the lettuce within a tote, to pre-wash prior to placing into a tote would have been within the knowledge of the ordinarily skilled artisan for the purpose of forgoing the need to drain the container of the dirt and residue from the wash and also as quick means of initially removing the dirt and contaminants from the produce prior to the actual washing. Such a modification would also have loosened dirt and other contaminants thus resulting in efficient cleaning during the washing step. This is a similar concept to pre-scrubbing dirty dishes before placing in the dishwasher so as to ensure complete cleaning of the dish. Even further, since Hougham teaches the concept of pre-washing, whether the pre-wash was performed prior to or after placement within the tote would not have provided a patentable feature over the prior art, since Hougham teaches the concept of pre-washing for the removal of the accumulation of dirt, an bacteriocidal effect and extending the shelf life of the product by adding moisture prior to processing the lettuce at a processing plant.

Regarding instant claim 39, Brown et al. ('865) further teaches washing fluid sprayed through the holes of the removed core (Column 2, Lines 35-41) thus removing any additional accumulated dirt or remaining latex exudates within the core. By further placing the flow of fluid through the de-cored ends of the product, as taught by Brown ('865), any accumulated dirt or exudates from within the core would also have been eliminated during washing.

Regarding instant claim 40, Mitchell et al. teach using conveyor system for immersing the tote in the washing tank. Regarding instant claim 41, the combined teachings of the prior art teach spraying and immersing the tote with a cleaning solution and wherein the de-cored ends are also contacted with washing fluid. It is noted that the instant claim recites wherein the transport mechanism is "configured to transport." The Examiner asserts that this is function language such that since the prior art teaches using a transport mechanism, that said mechanism would have been capable of performing the desired function. In this case the conveyor belts would have been capable of transporting the tote into a flow of washing fluid directed at the de-cored end of the product in the tote.

Regarding instant claim 42, Mitchell et al. teach that totes have been known in the art to have multiple openings (Column 1, Lines 22-25). Such a modification would have eliminated the need to drain the tote after immersing and spraying. Additionally, it would have been obvious to the ordinarily skilled artisan that a tote with openings would more efficiently have washed the produce contained therein. This is further supported by Brown ('850) in paragraph 0020. Regarding the strength of the flow, it is interpreted that a spray as taught by Brown ('865) and by Mitchell et al. in Figure 9B would have had sufficient strength to cause at least some, which is interpreted as any, washing fluid to flow through the de-cored end and out a leafy end of the produce.

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Viren Thakur whose telephone number is (571)-272-

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6694. The examiner can normally be reached on Monday through Friday from 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571)272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Viren Thakur
Examiner
Art Unit: 1761


STEVE WEINSTEIN
PRIMARY EXAMINER 1761
9/17/07